



SEQUENCE LISTING

<110> The University of Queensland

<120> Novel omega conotoxin peptides

<130> 2338740/MJC

<140> US 09/679,490

<141> 1999-04-16

<150> PCT/AU99/00288

<151> 1999-04-16

<160> 44

<170> PatentIn version 3.0

<210> 1

<211> 6

<212> PRT

<213> conus catus

<400> 1

Ser Gly Thr Val Gly Arg  
1 5

<210> 2

<211> 6

<212> PRT

<213> conus catus

<400> 2

Ser Lys Leu Met Tyr Asp  
1 5

<210> 3

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A modified version of the second loop of CVID

<400> 3

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Ser Arg Leu Met Tyr Asp  
1 5

<210> 4  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A modified version of the second loop of CVID

<400> 4

Asp Arg Leu Met Tyr Asp  
1 5

<210> 5  
<211> 27  
<212> PRT  
<213> conus catus

<400> 5

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 6  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A modified form of CVID

<400> 6

Cys Lys Ser Lys Gly Ala Lys Cys Ser Arg Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 7  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A modified form of CVID

<400> 7

Cys Lys Ser Lys Gly Ala Lys Cys Asp Arg Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 8

<211> 25

<212> PRT

<213> conus magus

<400> 8

Cys Lys Gly Lys Gly Ala Lys Cys Ser Arg Leu Met Tyr Asp Cys Cys  
1 5 10 15

Thr Gly Ser Cys Arg Ser Gly Lys Cys  
20 25

<210> 9

<211> 26

<212> PRT

<213> conus magus

<400> 9

Cys Lys Gly Lys Gly Ala Pro Cys Arg Lys Thr Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Gly Arg Arg Gly Lys Cys  
20 25

<210> 10

<211> 27

<212> PRT

<213> conus geographus

<220>

<221> misc\_feature

<223> Pro at positions 4, 10 and 21 is 4-Hyp

<400> 10

Cys Lys Ser Pro Gly Ser Ser Cys Ser Pro Thr Ser Tyr Asn Cys Cys  
1 5 10 15

Arg Ser Cys Asn Pro Tyr Thr Lys Arg Cys Tyr  
20 25

<210> 11

<211> 18

<212> DNA  
<213> conus catus

<400> 11

agcggcaccg taggtaga

18

<210> 12  
<211> 382  
<212> DNA  
<213> conus catus

<220>  
<221> CDS  
<222> (10) .. (228)

<400> 12

atcatcaaa atg aaa ctg acg tgt gtg gtg atc gtc gcc gtg ctg ctc ctg 51  
Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu  
1 5 10

acg gcc tgt caa ctc atc aca gct aat gac tcc aga ggt acg cag aag 99  
Thr Ala Cys Gln Leu Ile Thr Ala Asn Asp Ser Arg Gly Thr Gln Lys  
15 20 25 30

cat cgt gcc ctg agg tct gac acc aaa ctc tcc atg tct act cgc tgc 147  
His Arg Ala Leu Arg Ser Asp Thr Lys Leu Ser Met Ser Thr Arg Cys  
35 40 45

aag agt aaa gga gca aaa tgt tca aag ctt atg tat gac tgc tgc agc 195  
Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys Ser  
50 55 60

ggc tct tgc agc ggc acc gta ggt aga tgt ggc tgatccggcg cttgatctcc 248  
Gly Ser Cys Ser Gly Thr Val Gly Arg Cys Gly  
65 70

cccttctgtg ctctatcctt ttctgcctga gtcctcctta cctgagagtg gtcatgaacc 308

actcatcacc taccctctgg aggtctcaaa gaactacttg aaataaagcc gcttgcaaaa 368

aaaaaaaaaa aaaa 382

<210> 13  
<211> 73  
<212> PRT  
<213> conus catus

<400> 13

Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu Thr Ala  
1 5 10 15

Cys Gln Leu Ile Thr Ala Asn Asp Ser Arg Gly Thr Gln Lys His Arg  
 20 25 30

Ala Leu Arg Ser Asp Thr Lys Leu Ser Met Ser Thr Arg Cys Lys Ser  
 35 40 45

Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys Ser Gly Ser  
 50 55 60

Cys Ser Gly Thr Val Gly Arg Cys Gly  
 65 70

<210> 14  
 <211> 27  
 <212> PRT  
 <213> conus catus

<400> 14

Cys Arg Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
 1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
 20 25

<210> 15  
 <211> 27  
 <212> PRT  
 <213> conus catus

<400> 15

Cys Lys Ser Lys Gly Ala Arg Cys Ser Lys Leu Met Tyr Asp Cys Cys  
 1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
 20 25

<210> 16  
 <211> 27  
 <212> PRT  
 <213> conus catus

<400> 16

Cys Lys Ser Lys Gly Ala Gln Cys Ser Lys Leu Met Tyr Asp Cys Cys  
 1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
 20 25

<210> 17  
<211> 27  
<212> PRT  
<213> conus catus

<400> 17

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Ala Val Gly Arg Cys  
20 25

<210> 18  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<400> 18

Cys Lys Ser Lys Gly Ala Lys Cys Asp Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 19  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<400> 19

Cys Lys Tyr Lys Gly Ala Lys Cys Ser Arg Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 20  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<400> 20

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Ala Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 21

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A derivative of CVID

<400> 21

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Thr Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 22

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A derivative of CVID

<220>

<221> misc\_feature

<222> (5)

<223> Xaa at position 5 is D-alanine

<400> 22

Cys Lys Ser Lys Xaa Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 23

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A derivative of CVID

<400> 23

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys Tyr  
20 25

<210> 24  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<400> 24  
Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 25  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<400> 25

Tyr Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys  
1 5 10 15

Cys Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 26  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<220>  
<221> misc\_feature  
<223> Cysteine at position 1 is acylated

<400> 26

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 27



<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<220>  
<221> misc\_feature  
<222> (12)  
<223> Leu at position 12 is L-norleucine

<400> 27

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Leu Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 28  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<220>  
<221> misc\_feature  
<222> (12)  
<223> Leu at position 12 is L-norleucine

<400> 28

Cys Lys Ser Lys Gly Ala Lys Cys Ser Arg Leu Leu Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 29  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<220>  
<221> misc\_feature  
<222> (12)  
<223> Leu at position 12 is L-norleucine

<400> 29

Cys Lys Tyr Lys Gly Ala Lys Cys Ser Arg Leu Leu Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 30  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<220>  
<221> misc\_feature  
<222> (12)  
<223> Xaa at position 12 is L-O-methyl homoserine

<400> 30

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Xaa Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 31  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<220>  
<221> misc\_feature  
<222> (12)  
<223> Methionine residue at position 12 is oxidised to its sulfoxide

<400> 31

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Xaa Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 32  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A derivative of CVID

<400> 32

Cys Lys Ser Lys Gly Ala Lys Cys Ser Lys Leu Met Tyr Asp Cys Cys  
1 5 10 15

Ser Gly Ser Cys Ser Gly Thr Val Gly Arg Cys  
20 25

<210> 33

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A modified version of the second loop of CVID

<400> 33

Asp Lys Leu Met Tyr Asp  
1 5

<210> 34

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A modified version of the second loop of CVID

<400> 34

Ser Lys Leu Ala Tyr Asp  
1 5

<210> 35

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A modified version of the second loop of CVID

<220>

<221> misc\_feature

<223> Leu at position 4 is L-norleucine

<400> 35

Ser Lys Leu Leu Tyr Asp  
1 5

<210> 36

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A modified version of the second loop of CVID

<220>  
<221> misc\_feature  
<223> Leu at position 4 is L-norleucine

<400> 36

Ser Arg Leu Leu Tyr Asp  
1 5

<210> 37  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A modified version of the second loop  
of CVID

<220>  
<221> misc\_feature  
<222> (4)  
<223> Xaa at position 4 is L-O-methyl homoserine

<400> 37

Ser Lys Leu Xaa Tyr Asp  
1 5

<210> 38  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: A modified version of the second loop  
of CVID

<220>  
<221> misc\_feature  
<222> (4)  
<223> Xaa at position 4 is L-O-methyl serine

<400> 38

Ser Lys Leu Xaa Tyr Asp  
1 5

<210> 39  
<211> 26  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<220>  
<221> misc\_feature  
<222> (2)..(4)  
<223> Xaa may be any other amino acid and up to one Xaa may be a

deletion

<220>  
<221> misc\_feature  
<222> (6)..(7)  
<223> Xaa may be any other amino acid and up to one Xaa may be a deletion

<220>  
<221> misc\_feature  
<222> (9)  
<223> Xaa may be any other amino acid and up to one Xaa may be a deletion

<220>  
<221> misc\_feature  
<222> (12)  
<223> Xaa may be any other amino acid and up to one Xaa may be a deletion

<220>  
<221> misc\_feature  
<222> (14)  
<223> Xaa may be any other amino acid and up to one Xaa may be a deletion

<220>  
<221> misc\_feature  
<222> (17)  
<223> Xaa may be any other amino acid and up to one Xaa may be a deletion

<220>  
<221> misc\_feature  
<222> (22)  
<223> Xaa may be any other amino acid and up to one Xaa may be a deletion

<400> 39

Cys Xaa Xaa Xaa Gly Xaa Xaa Cys Xaa Lys Leu Xaa Tyr Xaa Cys Cys  
1 5 10 15

Xaa Ser Cys Ser Gly Xaa Val Gly Arg Cys  
20 25

<210> 40  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<400> 40  
aactggaaga attcgcggcc gcaggaat

28

<210> 41  
<211> 23

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

*04*  
*Conclude*  
<400> 41

atcatcaaaa tgaaactgac gtc

23

<210> 42  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<400> 42

aactggaaga attcgcggcc gcaggaat

28

<210> 43  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<400> 43

atcaaaatga aactgacgtg tgtggtg

27

<210> 44  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<400> 44

gcgttttgat cagccacatc taccta

26